

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织  
国际局



(43) 国际公布日:  
2005年7月14日(14.07.2005)

PCT

(10) 国际公布号:  
WO 2005/064950 A1

- (51) 国际分类号:<sup>7</sup> H04Q 7/00
- (21) 国际申请号: PCT/CN2004/000665
- (22) 国际申请日: 2004年6月22日(22.06.2004)
- (25) 申请语言: 中文
- (26) 公布语言: 中文
- (30) 优先权:  
200310112905.X 2003年12月25日(25.12.2003) CN
- (71) 申请人(对除美国以外的所有指定国): 中兴通讯股份有限公司(ZTE CORPORATION) [CN/CN]; 中国广东省深圳市南山区高新技术产业园科技南路中兴通讯大厦, Guangdong 518057 (CN).
- (72) 发明人;及
- (75) 发明人/申请人(仅对美国): 胡宪利(HU, Xianli) [CN/CN]; 李如俊(LI, Rujun) [CN/CN]; 程宁(CHENG, Ning) [CN/CN]; 李海鹏(LI, Haipeng) [CN/CN]; 中国广东省深圳市南山区高新技术产业园科技南路中兴通讯大厦, Guangdong 518057 (CN).

LTD.); 中国北京市海淀区知春路23号量子银座306室, Beijing 100083 (CN).

(81) 指定国(除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

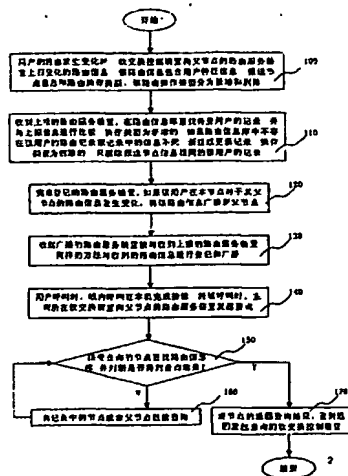
(84) 指定国(除另有指明, 要求每一种可提供的地区保护): ARIPO(BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), 欧亚专利(AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), 欧洲专利(AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

- (74) 代理人: 北京律诚同业知识产权代理有限公司  
(LECOMTE INTELLECTUAL PROPERTY AGENT

[见续页]

(54) Title: ROUTE SERVING DEVICE, METHOD AND SYSTEM APPLYING THE DEVICE

(54) 发明名称: 路由服务装置及应用该装置实现呼叫路由的方法和系统



- 1 START  
2 END  
100 WHEN THE USER ROUTE CHANGE THE SOFT SWITCH DEVICE REPORT THE CHANGED ROUTE INFORMATION TO THE ROUTE SERVING DEVICE OF THE UPPER NODE, THE INFORMATION INCLUDE USER CHARACTERISTIC INFORMATION, INFORMATION OF THE REPORTING NODE AND ROUTE OPERATION TYPE. THE ROUTE OPERATION INCLUDE ADDING AND DELETING.  
110 THE ROUTE SERVING DEVICE RECEIVING THE INFORMATION QUERY THE LOGGING USER NOTE IN THE ROUTE INFORMATION DATABASE, AND COMPARE WITH THE REPORTED INFORMATION. OPERATION TYPE IS NEWLY ADDED IF THERE IS NO ROUTE NOTE OF THE USER IN THE ROUTE INFORMATION DATABASE OR THE INFORMATION OF THE NOTE IS DIFFERENT THEN RECALL ESTABLISH OR UPDATING THE NOTE. OPERATION TYPE IS DELETING ONLY DELETE THE SAME USER NOTE IN THE REPORTED INFORMATION.  
120 IF THE USER IN THE NODE CHANGED ITS ROUTE INFORMATION COMPARED TO THE UPPER NODE, THEN THE ROUTE SERVING DEVICE THAT FINISHED THE REGISTER WILL BROADCAST THE ROUTER INFORMATION TO THE UPPER NODE.  
130 THE ROUTE SERVING DEVICE RECEIVING THE BROADCAST REGISTER AND BROADCAST THE RECEIVED ROUTE INFORMATION ACCORDING TO THE SAME METHOD OF THE ROUTE SERVING DEVICE RECEIVING THE REPORTING.  
140 WHEN USER CALLING WITHIN LOCAL AREA, THE SWITCH OF THE CALL IS COMPLETED LOCALLY. OUTSIDE LOCAL AREA, THE SOFT SWITCH DEVICE OF THE CALLING BEGIN QUERYING TO THE ROUTE SERVING DEVICE OF THE UPPER NODE.  
150 THE NODE ACCEPTING THE QUERY LOOK UP THE ROUTE INFORMATION DATABASE AND DETERMINE WHETHER GET THE RESULT OR NOT?  
160 GO ON QUERYING THE NODE OR THE UPPER NODE IN THE NOTE.  
170 FOR EACH NODE RETURN THE QUERY RESULT UNTIL RETURN THE SOFT SWITCH CONTROL DEVICE THAT BEGIN THE QUERY.

(57) Abstract: This invention disclose a kind of route serving device, and method and system which use the device to realize route calling, the route serving device and soft switch control device network in layer, the soft switch control device function as the lowest node, when the route change, the soft switch control device report the route information which include user node to the upper node, the route serving device register the information and broadcast the changed route information to the upper node, every corresponding route serving device register and broadcast with the same way, when calling in different area, soft switch control device of the calling initiate the query to the upper node, and return the result of query, then call the route to the soft switch control device of the called, the invention use the route serving device in place of the soft switch control device to finish the route function, and make the soft switch control device major in the service provision, and also provide a solution to network in large scale in telephone level for soft switch control device.

[见续页]



根据细则4.17的声明:

- 关于申请人在国际申请日有权申请并被授予专利(细则4.17(ii))
- 对除美国以外的所有指定国
- 发明人资格(细则4.17(iv))仅对美国

本国际公布:

- 包括国际检索报告。

所引用双字母代码和其它缩写符号, 请参考刊登在每期PCT公报期刊起始的“代码及缩写符号简要说明”。

---

(57) 摘要

本发明公开了路由服务装置及应用该装置实现呼叫路由方法和系统, 路由服务装置和软交换控制装置分层组网, 软交换控制装置作为最下层的节点, 用户路由发生变化时, 软交换控制装置向父节点上报的包含用户节点的路由信息, 路由服务装置进行登记, 并将变化的路由信息广播到父节点, 各相关路由服务装置以同样方法进行登记和广播, 跨域呼叫时, 主叫所在软交换控制装置向父节点发起查询, 并接收返回的查询结果, 从而将呼叫路由到被叫所在软交换控制装置, 本发明用路由服务装置代替软交换控制装置完成呼叫路由功能, 使软交换控制装置专注于业务的提供, 也为软交换控制装置提供了一种电信级的大规模组网解决方案。